for training the observing powers of pupils in the country; which should be judiciously directed by the teacher so as to render the observations continuous and systematic as far as they go; they should be always duly recorded, dated, and correctly described. But the encouragement of making collections must be done cautiously, as boys are too prone to be thoughtlessly cruel. Of course information on animals may be given informally. With regard to botany nearly twenty years' experience of teaching boys and girls of all ages and of nearly all classes, has convinced me that it may be commenced as soon as one likes. The plan pursued by my father at Hitcham (of which an account will be found in the *Leisure Hour* for 1862, p. 676) clearly proved the advantage to be derived by village school children, and I can corroborate it by my own attempts in another village; for there was a marked increase in the general intelligence, to say nothing of botany giving the children an amusing and instructive employment in the fields instead of their idling in the street—a fact noticed and strongly approved of by their parents. This subject, whatever may be the objections to others, *can* be taught to almost infants.

With regard to electricity, magnetism, and the elements of chemistry, beyond the last of these, I have no experience, but should fancy that the manipulation required would be unattainable before the ages of eleven or twelve, and the abstract nature of force would scarcely commend itself to the understanding before that age.

Physical geography, however, is another subject which, although affording less scope for the observing powers as botany, is by no means absolutely wanting in this respect. I cannot say that my "young boys [were] more (or less) attentive, active-minded, diligent when they [were] doing arithmetic than when they [were] at a lesson on physical geography." One principle I would insist upon is to appeal to the eye, as well as or rather more than the imagination, of young people. Hence in teaching this science, where no direct observation of the facts is possible (as of glaciers, in Warwickshire), my plan was to procure abundant and good illustrations, while the chief facts connected with their motions and formations would be illustrated by diagrams on the black board. Yet the effects of river and atmospheric action may be actually seen, often to a considerable extent, everywhere; and marine action having been learnt and understood at school, has been eagerly looked for when a visit to the sea-side was forthcoming. Here, however, not only facts should be taught, but their causes, or forces in action which have produced them, and the study will then never be dry. Physical geography has its value in realising in the pupil's mind the true nature of sequences between cause and effect, and he thus begins to grasp the fundamental principle of philosophy or "continuity" of action. I have found boys of eight thoroughly able to appreciate the elements of the subject; of course by adapting the facts and reasoning to their capacities.

Physical geography, being simply "modern geology," should invariably precede geology, which above all subjects cultivates inductive reasoning, and I have found boys from about twelve well able to grasp the main facts and reasonings. If they happen to be near any fossiliferous strata or where a variety of rock specimens may be procured, the encouragement to collect as many as possible should be given at any preceding age, for the most fascinating pursuit in science is undoubtedly collecting. (I have to this day crag shells collected at the age of eight, when I was first initiated into geological mysteries.) Collecting, however, is of course only the preliminary stage, and one's scientific lore must not be allowed to rest there.

Before twelve I agree with Mr. Wilson that practical chemistry should not begin for reasons already mentioned. But, however, Mr. Wilson says, "Science should be introduced into a school, beginning at the top and going downwards gradually to a point which will be indicated by experience," surely this is inverting a fundamental principle of education, and we may ask why should science be thus singled out? Why not begin at the top with Latin and arithmetic, and work downwards? Science, however, has its "elements" and its "advanced" stages like everything else. The soundest method seems to me to select the science for each age or capacity of pupils, and for the teacher himself to adapt the branch selected to them. Let him begin with botany—with children of the age of six, if he pleases—and by using the schedule he will find it almost self-adapting to the child's powers, as I have more fully explained elsewhere (see a paper "On the Practical Teaching of Natural Science in Schools," *Educational Times*, March 1, 1876). Physical geography might come next with pupils from eight to twelve, then the experimental sciences or geology from twelve upwards. The observing of the habits of animals might go along with any other science as an out-door instructive amusement, and be limited to no age.

Mr. Wilson talks of the difficulty of a "bored and weary schoolmaster teaching science informally." Passing by the fact that if he be bored and weary, it is largely due to his own want of interest in teaching or in engaging that of his pupils; I would maintain just the opposite opinion, that assuming a teacher to be such, informal teaching in natural history has a wonderful invigorating effect and re-awakens the attention which may have become dull by monotony. Thus I have often found during a lesson in Latin, *e.g.*, Virgil's "Georgics," passages to be constantly occurring when "collateral science" can be invoked. And what is a proof of its value is, that it becomes suggestive to the pupils themselves, so that I have been obliged to check the superabundance of questions lest a Latin lesson should resolve itself into one on natural history.

Beyond such informal teaching as this I would never encourage it as a principle for teachers solely to act upon, with young children, though, of course there need be no restrictions in giving it them; but if science is to be *taught* at all—and all such informal methods are not really teaching—let it be thorough as far as it goes, lest it should lapse into a slipshod informality. It is the charm of the schedule system of botany that it demands close and accurate observation in the dissections, and the writing compels accuracy in the result as well as impresses the facts firmly upon the memory. Mr. Wilson is doubtless right in laying stress upon the necessity of securing abundance of capable teachers, which will probably ever be one of the chief difficulties to contend against.

GEORGE HENSLOW

NOTES

M. LEVERRIER has sent to M. Waddington, the French Minister of Public Instruction, a proposal for the immediate construction of the great refractor for the Paris Observatory, which is to be finished in two years and five months. A tender has been sent to M. Leverrier by M. Eichens, the constructor of the great reflector, for that purpose; M. Leverrier proposes the acceptance of M. Eichens' offer.

M. LEVERRIER has been appointed president of the Scientific Committee of the Assemblée des Sociétés Savantes, which is to be held at the Sorbonne next week.

AN Academy of Science has been established at Kansas City, Mo., United States, with appropriate sections for geology, zoology, botany, local history, numismatics, &c. One of the chief objects of the association is to form a museum of specimens which will represent the minerals and fossils, and the fauna and flora of Missouri, Kansas, and the territories.

FROM a communication received by the Scottish Meteorological Society from their observer at Stykkisholm, Iceland, dated

March 11, we learn that the past winter has been particularly mild, the cold having been at no time either persistent or severe. The rainfall has been considerable, and little snow has fallen, and what did fall quickly disappeared. The absence of snow allowed cattle and horses almost always to get good pasturing, and in many places the young sheep were not put under shelter till the end of January, a circumstance almost unprecedented. At the date of writing, the Greenland ice had not made its appearance in the north-west of the island, to which, and to the unusual prevalence of southerly winds, the mildness of the winter in Iceland has been due. The volcano in the Northland has recently shown signs of disturbance by emitting volumes of smoke at intervals, but no ashes or lava has been reported.

SOME time ago an experimental inquiry was undertaken by M. J. J. Müller on a point of considerable importance in reference to our knowledge of the luminiferous ether, viz., whether in light as in the case of sound, the wave-length is dependent on the intensity, or (the same thing) the amplitude of the vibrations. He gave an affirmative answer, and said that the wave-length increases with the intensity. In view of the important issues involved, M. Lippich has recently been led to repeat the experiments, and with arrangements of greater accuracy (about 2,000 times, as he estimates, more accurate than Müller's). From this investigation, of which an account appears in the *Sitzungsberichte* of the Vienna Academy, he concludes, in opposition to Müller, that the wave-length of light, whether in free ether, or in any ponderable media, is *independent* of the intensity of the light vibrations, and so, the duration of vibration being given, a constant depending only on the nature of the medium considered at rest.

THE time elapsing between the action of an external stimulus on some part of the body, and the giving of a signal (previously agreed upon) in reply, has been determined in the case of several senses, by various experiments. A short time ago MM. Vintschgau and Hönigschmied sought to determine this "reaction-time" for sensations of taste on the point of the tongue; and in the subject experimented on, this was found to be, for ordinary salt, 0·1598″, for sugar 0·1639″, for acid 0·1676″, and for quinine 0·2351″. It is interesting to compare the results which the same observers have recently obtained in further experiments as to the reaction-time for sensations of touch on the tongue. This, in the same individual, was found to be 0·1507″ in the case of the tongue being touched with a pencil; a smaller value, therefore, than that of the shortest interval in the former case of taste. In the middle of the tongue the reaction-time, on touching with a pencil, was 0·1527″. A weak electric stimulation of the tongue-point was answered after 0·1813″, whereas with a stronger electric stimulus the answer came in 0·1452″. These numbers represent, in all cases, the averages of all the experiments. It will be seen, then, that the point of the tongue is most sensitive for strong electric stimuli, and the order of sensibility for the remaining stimuli, was (for this individual): Contact, saltness, sweetness, sourness, weak electric stimulation, and bitterness. Other persons on whom similar measurements were made, gave values that were different both relatively and absolutely, and the results for different persons appear to be not comparable together. Various secondary influences play an important part, among which may be cited the thickness of the mucous membrane at the particular part experimented on; this may considerably increase the reaction-time. An estimate of the comparative sensibility of the separate organ of sense can best be had from comparisons in one and the same individual.

MR. W. SAVILLE-KENT, F.L.S., F.G.S., &c., formerly of the British Museum, and more recently of the Brighton, Manchester, and Yarmouth Aquaria, has been appointed Managing Naturalist to the Royal Aquarium, Westminster. Some of the fresh-water tanks are already stocked with fish; the sea-water is being rapidly imported, and it is anticipated that a fine collection of both salt and fresh-water species will be on view in the course of a few weeks.

M. AMÉDÉE GUILLEMIN announces a new edition of his well-known work "Le Ciel," to be published in fifty-five weekly parts. For the new edition the work has been to a great extent recast, in order that account might be taken of all the important recent discoveries and advances in astronomy. The results which have been obtained by means of the spectroscope in relation to the sun and the stars will especially occupy a prominent place in the new edition, which will be larger by one-half than any of its predecessors; the number of plates and woodcuts will also be increased in a like proportion.

M. MARIÉ DAVY has asked the Municipal Council of Paris to grant the necessary funds for the construction of an experimental lightning conductor. The apparatus is to be placed on a pole erected at a distance from buildings, and to have a key, so that continuity may be interrupted for scientific purposes.

M. BERTHELOT, the well-known French chemist, has been appointed Inspector of Public Instruction, in place of M. Balard.

MESSRS. COLLINS AND CO. have sent us a volume containing "Tables, Nautical and Mathematical, for the use of Seamen, Students, Mathematicians, &c., arranged, corrected, and some re-calculated," by Henry Evers, LL.D. The author has mainly followed the best English authorities, and we believe the collection will be found very useful by those for whom it is intended. There are in all twenty-one different tables, and prefixed is an introduction to the Logarithmic Tables, showing how they are used.

IN the last issued part of the *Transactions* of the Manchester Geological Society (Part ii., vol. xiv.) there are papers by Mr. J. Dickenson, on Measuring Air in Mines, and by Mr. Aitken, on Drift Deposits on the *Western* Pennine Slopes of the upper drainage of the rivers Calder and Irwell, with suggestions as to the cause of the partial absence of drifts on the *Eastern* Slopes. Mr. Plant gives some interesting details on a submerged forest near Holmfirth, and Prof. Boyd Dawkins states his belief, from a critical examination of the coal-fields of New South Wales, that there is not much doubt of their being palæozoic.

AT the recent annual meeting of the Asiatic Society of Bengal, Mr. Blochmann read extracts from an account of the Meywa, Bheels, by Dr. T. H. Hendley, Residency Surgeon, Jeypore, Rajpootana, who gives description of those members of the Bheel race who reside in the Hill Tracts of Meywar (Oodeypore), where they have perhaps best preserved their individuality. In the chapter on the religion of the Bheels, Dr. Hendley notices the cairns or sthans, which are erected on the summits of high hills, and the curious reverence of the people for the horse, which, as Sir J. Malcolm says, the Bheels worship, and do not mount. Then follows a description of the customs observed at births, marriages, and deaths, of the government and the agriculture of the tribe, and statistical tables containing race measurements. The Bheel skull is slightly dolichocephalic, and differs very much from the long thin-walled cranium of the pure Hindoo. Mr. Blochmann also read extracts from a paper by Mr. J. A. Smith on the popular songs of the Humeerpore District, N. W. P. This paper contains specimens of songs sung in Bundelkhund in honour of Hurdaul, a son of the notorious Bir Singh Deo Bundila, Rajah of Urcha, who was poisoned by his brother Jhajhar Sing. His ghost is worshipped in every village, and chiefly at weddings in Baisakh. Hurdaul is also propitiated with songs when storms appear.

MR. GILES, with the camels belonging to Mr. Elder, was to leave Champion Bay, West Australia, early last month. He was to examine the tributaries of the Murchison and other rivers on the North Coast, and then push across to South Australia, hoping to reach Adelaide in December.

MR. CAMPBELL DE MORGAN, F.R.S., died on the 11th inst. Mr. de Morgan had contributed some valuable papers to the *Philosophical Transactions* and to the medical journals.

SIR WILLIAM JENNER, BART., will deliver the Harveian Oration on Midsummer Day.

THE Rhind Lectures on Archæology, in connection with the Society of Antiquaries of Scotland, will be given by Dr. Arthur Mitchell, commencing on Tuesday last, and continued on the following Fridays and Tuesdays. There will be six in all, and the subject is, "Do we possess the means of determining scientifically the condition of Primæval Man and his Age on the Earth?"

A BOTANIC GARDEN about twenty acres in extent has been just opened at Southport. In connection with it a museum has been erected containing collections in the various branches of natural history, the entomology of the neighbourhood being well represented in this branch of the museum. Geology has a department assigned to it, and the usual local curiosities, with coins, medals, &c., have a place. The whole of the collections have been well arranged and classified.

IT is proposed to erect an aquarium and winter garden at Clifton, and a committee has been appointed with a view of obtaining a proper site.

MR. JOHN MURRAY announces a new work by Mr. Charles Darwin, F.R.S., on the results of cross and self-fertilisation in the vegetable kingdom.

THE *Journal Officiel* of the French Republic has published an official document estimating the expenses of the International Exhibition of 1878 at 1,200,000*l*.

AN interesting notice has appeared by MM. Becquerel and Edm. Becquerel of the temperatures observed at the Museum, Paris, during 1875, with electric thermometers placed at depths varying from $3\frac{1}{3}$ feet to 118 feet. The mean temperature increases with the depth from 5°·3 at $3\frac{1}{3}$ feet, to 54°·4 at 118 feet. The seasonal range diminishes with the depth, the difference between the two extreme seasons at $3\frac{1}{3}$ feet being 13°·5; at $19\frac{3}{4}$ feet 3°·0; at 36 feet 0°·5; at 101 feet only 0°·07, and at 118 feet the temperature is constant through the year. An interesting point is the disturbing influence on the varying annual and seasonal results according to depth, arising from the different geological strata met with, but particularly from two layers at depths of 49 and 79 feet, through which a constant flow of water percolates to the Seine. In these layers the minimum occurs towards the end of winter, and the maximum in summer, being thus assimilated as regards these annual phases of their temperature to the surface layers.

M. CROVA, professor in the Montpellier Academy, has instituted experiments to determine by calculation what is the value of solar radiation at the limits of the atmosphere. The professor found that for a normal plane exposed to the sun's rays it amounts to two calories per minute on each square centimetre, so that almost every hour a cubic centimetre of water could be heated to 100° C. if no heat were lost by evaporation. Pouillet found the number greater by half, and equal to 231,000 calories per year for each square centimetre.

ON April 1, at 5 o'clock in the afternoon, a partial solar halo (46°) was observed at Paris. The arc (12°) was vertical in the orient of the sun, and at the same distance from the horizon, and the colours were as vivid as an ordinary rainbow. The partial halo was accompanied by a parhelion or triangular mass of light. The interior part of the halo was obscure. The phenomenon lasted for three-quarters of an hour. At 5h. 30m. a vertical column of light going upwards to the zenith was observed.

THE French Minister of Public Instruction, M. Waddington, has visited officially the several establishments of public instruction in Paris, as well as the site of the building to be constructed for the use of the Academy of Medicine. It may be interesting to state that the money required for the building, which we referred to in a recent note, was extorted from the Bank of France during the Commune, under threat of pillage and assassination. The government assented to restore it to the city of Paris, to which it belonged, on condition that it should be devoted to works of public usefulness. The Municipal Council accepting the condition granted it for improving and extending the buildings of the Faculty.

M. LARGEAU and his staff have returned from Rhadames to Constantine after a successful journey. A lecture has been delivered at the Salle Herz, in Paris, by M. Foucher de Careil, a senator, and a concert given on behalf of future explorations by M. Largeau and his colleagues.

MANY persons are under the impression that white cats with blue eyes are deaf; it can by no means, however, be deemed to be so commonly the case as to be an evidence of much consequence in building a theory upon. A New Zealand correspondent sends us some curious facts bearing on the point. "At Taranaki, N. Z.," he says, "I saw a white cat with blue eyes which was not at all deaf, and a good many of its kittens were white and had light blue eyes. As many of these had perfect hearing as were afflicted with deafness. This cat had a grown-up kitten perfectly black which had sometimes also white young ones with blue eyes; it showed, as did the old cat, a singular partiality for them. On one occasion it happened that the old white cat and her black daughter had litters at the same time; amongst them there was only one white kitten with blue eyes—the black cat's. The two fought fiercely for possession of the coveted beauty, and the old cat frequently took it away and placed it amongst her own. One morning the unfortunate object of quarrel was found divided by the recommendation of some feline Solomon, and each cat quite contentedly in possession of half. Both of these litters had some light tortoiseshell-coloured kittens among them, of which a moiety appeared to have their hearing imperfect."

"RAILWAY Appliances, a Description of Details of Railway Construction subsequent to the Completion of the Earthworks and Structures, including a Short Notice of Railway Rolling Stock," is the title of a little work by Mr. John Wolfe Barry, published by Longmans and Co. The work, we believe, will be found of value not only to railway officials of all kinds who desire to have an intelligent knowledge of their duties and of the details of the elaborate system whose efficient working depends on them, but also to the general, and especially the stock-holding, public, who have but a vague idea of the multitude of details which are wrapped up in the little word "railway." Mr. Barry treats in successive chapters of Acts of Parliament and other regulations affecting railways, permanent way, points and crossings, signals, the block system, stations, and rolling stock. The book is plentifully illustrated.

THOSE who are familiar with Dr. J. W. Draper's "History of the Intellectual Development of Europe," will be glad to know that Messrs. George Bell and Sons have published an edition, revised by the author, in Bohn's "Philosophical Library" series.

MESSRS. LONGMANS AND CO. have published as an Appendix to the seventh edition of Ganot's Treatise on Physics,—

"Problems and Examples in Physics." We believe this collection will be found useful by the student of other text-books of Physical Science. There are 217 examples with answers.

MR. F. GREEN, writing from Cannes, April 16, states that he had just seen, for the first time this year, a flight of about half-a-dozen swallows. They were passing over his garden coming from the sea, and going to the N. W. The nearest land to the S. E. from Cannes is Corsica, 110 miles away. Last year the first flight of swallows which he observed at Cannes was on April 11, and on the same day he heard the nightingale for the first time of the season. This season he has not yet heard the nightingale.

THE additions to the Zoological Society's Gardens during the past week include an Indian Wild Dog (*Canis primævus*), a Common Paradoxure (*Paradoxurus typus*) from the Deccan, presented by Col. A. C. McMaster; a Small Hill Mynah (*Gracula religiosa*) from India, presented by Mrs. A. E. Smithers; a Yellow-faced Amazon (*Chrysotis xanthops*) from S.E. Brazil, presented by Mrs. Geo. B. Crawley; two Common Boas (*Boa constrictor*) from St. Lucia, presented by Mr. G. W. Des Vœux; four Trout (*Salmo fario*), a Golden Tench (*Tinca vulgaris*) from British Fresh Waters, presented by Mr. D. Banks.

ABNORMAL MULTIPLICATION AND ABORTION OF PARTS IN MEDUSÆ[1]

PROF. L. AGASSIZ describes as of very rare occurrence upon the American coast, a peculiar variety of *Sarsia*, presenting six radial tubes, six oulli, and six tentacles. It therefore becomes the more interesting to state that I met with a precisely similar variety on the east coast of Scotland. Moreover, the occurrence of this variety appears to be as rare in the one locality as in the other; for of all the many thousands of *Sarsia* which fell within my observation last summer, I only met with one specimen of the variety in question.

In nearly all the species of naked and covered-eyed Medusæ which I had the opportunity of examining, there was a remarkable absence of monstrous or mis-shapen forms. In the case of one species, however, such forms were of frequent occurrence. This species was *Aurelia aurita*, and the monstrosities showed themselves both as abnormal multiplications and abortions of parts. In all the cases of asymmetrical multiplication which I observed, the peculiarity was confined to the lithocysts, and always showed itself in the same manner. That is to say, I have several times observed, in otherwise normal specimens of *Aurelia aurita*, the presence of nine instead of eight lithocysts, and in all these cases the supernumerary lithocyst—which was always fully formed and provided with the usual hood—was placed beside and in close contact with one of the normal lithocysts. This latter fact appears to me important when considered in relation to the theory of Pangenesis; for upon this theory it would follow that if a supernumerary lithocyst is to be developed at all, we should expect it to be so in apposition with one of the normal lithocysts rather than in any other position. Our ground for expecting this, of course, is that the theory of Pangenesis supposes similar gemmules to have a mutual affinity for one another; and as lithocyst gemmules would naturally be plentiful in the region of any normal lithocysts during the process of its development, or of its repair if injured, if anything went slightly wrong in either of these processes, facilities would be offered for the adhesions of improper gemmules at the point where the disturbing cause acted, and these improper adhesions having once taken place, and being then followed by normal adhesions of proper gemmules, the result would probably be a duplex organ.

I have said that in all the cases of asymmetrical multiplication of parts which fell under my notice, it was the lithocysts alone that were affected. But besides these cases of asymmetrical multiplication of parts in *Aurelia*, I saw several instances of strictly symmetrical multiplication, and in all these instances every part of the organism was equally—or rather proportionally—affected. That is to say, as in the single instance of multiplication of parts which I observed in *Sarsia*, all the organs of the nectocalyx—eye-specks, tentacles, and nutritive tubes—were similarly affected; so in the several instances of multiplication of parts which I observed in *Aurelia*, all the organs of the umbrella were similarly affected. If anyone will turn to the admirable plates contained in Prof. L. Agassiz's third contribution to the Academy of Arts and Sciences, and representing a normal specimen of the genus *Aurelia*, he will see that the nutritive canals bear a very definite and symmetrical arrangement with reference to one another, and also with reference to the ovaries and lithocysts. In particular, there are sixteen principal radial tubes that proceed in straight lines and without branching from the centre to the circumference of the umbrella. Of the sixteen tubes, one passes directly to each of the eight lithocysts, while the remaining eight tubes alternate with these. Thus the sixteen radial tubes together mark out, as it were, the whole umbrella into sixteen equal segments. Well, in all the examples which fell under my notice of abnormal multiplication of parts in *Aurelia* (other than those of mere duplication of lithocysts), the precise and peculiar symmetry just described was strictly adhered to; in all these examples the undue multiplication extended proportionally to ovaries, nutritive tubes, lithocysts, and tentacles; so that its effect was to increase the *number* while adhering to the *type* of the natural segments above described. It is further remarkable that in all the instances I met with, the degree of abnormal multiplication was the same; for in all the instances the ovaries were six, the principal or unbranched radial tubes twenty-four, and the lithocysts twelve. All the parts, and therefore all the natural segments, were thus in all the observed instances increased by one-third of their normal number. It is curious to note that we have here the same proportional increase as has already been described in the case of *Sarsia*. This, of course, may be a mere accident; but whether or not it is so, I think that, as there is certainly no reason either in the case of *Sarsia* or of *Aurelia* to regard the forms in question as distinct species, it becomes worth while to draw attention to the very definite manner in which the abnormal multiplication of parts seems always to occur in these the only genera of Medusæ in which such multiplication has as yet been observed. It is perhaps worth while to add that in all the cases where I noticed this undue multiplication of parts, both in *Sarsia* and in *Aurelia*, the animals were remarkable for the unusual amount of nervous energy which they displayed. There can be no doubt that this fact is to be attributed to the unusually large supply of nervous matter that was secured to the organism by the multiplication of its marginal bodies.

As regards abortion of parts in *Aurelia aurita*, I cannot say that I have ever observed this to occur in any organs other than the ovaries. In these, however, suppression to a greater or less extent is of pretty frequent occurrence. Most usual is the case where one of the four ovaries is of smaller size than the other three. Often the abnormal diminution extends to two alternate or adjacent ovaries, and occasionally to three. More rare is the case of total suppression of one ovary. Only on about a dozen occasions have I seen total suppression of two ovaries, and in these it was sometimes the adjacent, but more frequently the opposite organs that were missing. Lastly, on one occasion I observed, in an otherwise well-grown specimen, a total absence of three out of the four ovigerous pouches. In no case, it may be added, did I observe that a deficiency or absence of ovigerous pouches entailed any corresponding deficiency or absence of any other organs.

I have said that, so far as my experience extends, neither reduction nor complete suppression of parts appears to occur in any organs of *Aurelia aurita*, other than the ovaries. It therefore becomes necessary to add that one or more of the lithocysts with their hoods are frequently to be seen of smaller size than the others. As these variations, however, are usually attended with a deficiency of the general tissue of the umbrella in the neighbourhood of the affected lithocyst, I am inclined to believe that in these cases the small lithocyst is one that has been reproduced to repair the loss of the original organ, which I suppose to have been removed by mechanical violence of some kind—a mutilation which seems well indicated both by the deficiency just alluded to of umbrella tissue in the parts concerned, and also by the cicatrix-like appearance which is presented at the confines of these parts by such tissues as remain. In conclusion, I may state that towards the end of August all the individuals of this species began to undergo a marked diminution in size. Concurrently with this diminution in size, the intensity of the pink colour—which in this species is characteristic of the ovaries, nutritive

[1] Extract from a paper on some new species and varieties of Medusæ, read before the Linnean Society on April 6th, by George J. Romanes, M.A.